

***NATIONAL WEATHER SERVICE CENTRAL REGION SUPPLEMENT 01-2003  
APPLICABLE TO NWSI 10-517***

***January 23, 2003***

***Operations and Services***

***Public Weather Warning Services, NWSPD 10-5***

***WFO Severe Weather Products Specification NWSI 10-517***

***HAZARDOUS WEATHER OUTLOOK***

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**NOTICE:** This publication is available at: <http://www.nws.noaa.gov/directives/>.

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***SUMMARY OF REVISIONS:***

This supplement supercedes Policy Memoranda - Hazardous Weather Outlook dated August 1, 2001 and May 10, 2002 filed with WSOM Chapters C-40, C-42, and C-44.

_____ (Signed by)	_____ 1/9/03
Dennis H. McCarthy	Date
Director, Central Region	

## **Hazardous Weather Outlook**

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1. Mission. In addition to the information in NWSI 10-517 section 4.1, the Hazardous Weather Outlook (HWO) is designed to be a “Heads Up” to expected hazardous weather and its potential impact. The HWO will also provide a “first-stop” for customers to find information on forecast hazardous weather.
2. Definition. A hazard in the HWO is defined as a weather, hydrologic, or non-precipitation event that has a significant chance of creating a harmful impact on people. Sometimes, if appropriate action is taken, harmful impact can be reduced or eliminated. Consider hazard criteria upon which customers take action. For example, the snowfall criteria used by cities or counties to send out their snow plows may not meet an office’s snow advisory criteria, but customers feel the effects of snowfall at this level are harmful enough to justify the appropriate action of sending out the snow plows.
3. In Central Region, the HWO is the preferred product for weather and non-precipitation outlook information. The exception is the hydrological outlook (ESF). Since detailed flood outlook information is contained in the ESF, include only general hydrologic information in the HWO.

The HWO should not include specific short fuse hazards due to their very short time duration. For short fuse hazards, customers are better served by products such as: Tornado Warning (TOR), Flood Statement (FLS), Severe Thunderstorm Warning (SVR), Flash Flood Warning (FFW), Flash Flood Statement (FFS), Severe Weather Statement (SVS), Special Marine Warning (SMW), and Short Term Forecast (NOW).

A negative statement for each individual hazard (described in NWSI 10-517 Section 4.3.3 on page 8) in either, the “Day One” or the “Days Two through Seven” time periods is not necessary and could detract from important hazard information. For example, “No severe thunderstorms are forecast. Heavy rain may cause flooding,” could be confusing or cause a person to stop reading after the first sentence, missing the outlook regarding heavy rain. Instead write, “Heavy rain may cause flooding”.

It is also not necessary to mention each of the days in the “Days Two through Seven” time period. It is sufficient and preferred to briefly discuss the hazardous weather on the days it is expected. For example, if hazardous weather is expected on Sunday and again on Wednesday, it is not necessary to include a sentence about clear to partly cloudy skies on Monday and Tuesday.

Nonhazardous weather information should not be included in the HWO as it unnecessarily lengthens the text and could camouflage the important information concerning the hazard. Nonhazardous weather terms used in explaining a hazard are acceptable. For example, “Heavy snow will taper off to flurries this afternoon” implies the poor visibility and snowfall accumulations will end this afternoon. Fair weather texts belongs in the zone forecast product (ZFP).

Refer to Appendix A to find supplemental guidelines for including various hazards in the HWO. Consider local guidelines and use forecaster discretion.

4. Format. The following comments apply to the HWO format in NWSI 10-517 section 4.3.4 Figure 3.

Headline(s) may be included to highlight the most significant hazard(s) through the 7-day period of the HWO. The hazard(s) in this headline may come from either the “.Day One...” time period, or the “.Days Two Through Seven...” time period. Strive for brevity and clarity in the headline(s). Complete sentences are not necessary in a headline. The purpose of the headline is to call attention to the most significant hazard or the hazard with the greatest potential impact. For example, if snow is likely to occur in day 6, a headline concerning the snow in day 6 may be appropriate to assure the customer’s attention to the potential for snow. This headline may simply read, “...Snow Likely Monday...”.

The appropriate time period will be attached to the “.Day One...” line (e.g., “.Day One...Today and Tonight”, “Day One... This Afternoon and Tonight”, “Day One...Tonight”).

In the paragraph following the “.Day One...” line, briefly state the hazard (What); the location (Where); the timing (When); and the expected impact. However, include any important information about the hazard that may influence customer’s decisions. A short, nontechnical explanation of why the hazard(s) is(are) expected may follow in the same paragraph or in a separate paragraph. So the customer may easily grasp the most important information, place the “what”, “where”, “when”, and potential impact ahead of the “why”. If more than one hazard is expected, discuss the hazards in order of greatest potential impact.

The appropriate time period will be attached to the “.Days Two through Seven...” line. For example “.Days Two through Seven...Wednesday through Monday.”

In the paragraph following the “.Days Two through Seven...” line, briefly state the hazard (What); the location (Where); the timing (When); and, if forecaster confidence permits, state the expected impact. However, include any important information about the hazard which may influence customer’s decisions. A short, nontechnical explanation of why the hazard(s) is(are) expected may follow in the same paragraph or in a separate paragraph. So the customer may easily grasp the most important information, place the “what”, “where”, and “when”, as well as any potential impact if included, ahead of the “why”. If more than one hazard is expected, discuss the hazards in order of greatest potential impact.

If a watch, warning, or advisory is in effect, WFOs should refer customers to their home page (e.g., <http://www.crh.noaa.gov/eax>) for more information.

Examples of HWOs can be found in Appendix B.

APPENDIX A  
GUIDELINES FOR HAZARDS (HWO)

HAZARD	INCLUDE IN HWO IF	COMMENTS
BLOWING DUST	Visibility poor enough to affect travel or indicative of poor air quality.	May want to obtain input from local air pollution officials.
BLOWING SNOW/DRIFTING SNOW	Resulting snow depths deep enough, or visibility low enough to affect travel and normal outdoor activities	
FIRE DANGER	Include when local “Red Flag” or “Fire Weather Watch” criteria are expected	
FLOODING	Any time forecast	Even minor lowland flooding can be a hazard to some normal activities.  May include high water, but not flooding situations if customers desire this.
FOG	Visibility low enough to affect travel	Should include information about moisture condensing and freezing on road surfaces, especially bridges and overpasses, when temperatures are expected to be near or below freezing.
FREEZING RAIN / FREEZING DRIZZLE	Any time forecast	Even small amounts of freezing rain/drizzle can make roads/walkways dangerously slippery
HEAT	Combination of temperature and humidity which could cause sunstroke, heat cramps, or heat exhaustion with prolonged activity.	Refer to Heat Index Chart NWSI 10-515 Appendix B section 3.2 Figure B-1  Be especially sensitive to large urban areas.

MARINE	Wind, wave, swell and/or high surf conditions that become a hazard for small boats (seasonal)	Coordinate through W/CR1x3
SLEET	Any time forecast	Even small amounts of sleet can make travel hazardous.
SMOKE	Visibility poor enough to affect travel or indicative of poor air quality.	May want obtain input from local fire officials or local air pollution officials.
SNOW	Snowfall significant enough to affect travel.	Consider cities and counties criteria for sending out their snow plows.
THUNDERSTORMS /HEAVY RAIN	Any time forecast	The hazard of cloud to ground lighting alone justifies mentioning thunderstorms in HWO. Include hail, strong winds, and tornadoes if expected or a reasonable possibility.
WIND	Wind speed approaches local criteria.	At 25 mph wind speeds begin to affect some high profile vehicles
WIND CHILL	Wind chill index forecast to approach local criteria.	

Table A-1 Criteria for including hazards in HWO.

**APPENDIX B -**

**EXAMPLES**

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EXAMPLE 1

THUNDERSTORMS - NONSEVERE

FPUS43 KIND 081055

HWOIND

INZ021-028>031-035>049-051>057-060>065-067>072-091300-

HAZARDOUS WEATHER OUTLOOK

NATIONAL WEATHER SERVICE INDIANAPOLIS IN  
555 AM EST MON JUL 8 2002

THIS HAZARDOUS WEATHER OUTLOOK IS FOR CENTRAL INDIANA.

.DAY ONE...TODAY AND TONIGHT

THUNDERSTORMS WILL BE POSSIBLE TONIGHT ACROSS ALL OF CENTRAL INDIANA. THUNDERSTORMS ARE LIKELY NORTH OF INTERSTATE 70 BEGINNING LATE THIS EVENING. THERE WILL BE A CHANCE OF THUNDERSTORMS AFTER MIDNIGHT SOUTH OF INTERSTATE 70. THESE THUNDERSTORMS MAY PRODUCE PERIODS OF HEAVY RAIN...PEA TO MARBLE SIZE HAIL...AND WIND GUSTS TO 50 MPH.

A STATIONARY FRONT OVER MICHIGAN EARLY THIS MORNING WILL BEGIN MOVING SOUTH LATE THIS AFTERNOON. THUNDERSTORMS ARE EXPECTED TO DEVELOP NEAR AND AHEAD OF THIS FRONT TONIGHT.

.DAYS TWO THROUGH SEVEN...TUESDAY THROUGH SUNDAY

THERE IS A CHANCE OF THUNDERSTORMS FRIDAY AND AGAIN SUNDAY.

.SPOTTER INFORMATION STATEMENT...

SPOTTERS ARE NOT EXPECTED TO BE NEEDED TONIGHT.

\$\$



EXAMPLE 2

WINTER WEATHER

FLUS43 KGJT 281342  
HWOGJT  
COZ001>014-017>023-UTZ022>025-027>029-282300-

HAZARDOUS WEATHER OUTLOOK  
NATIONAL WEATHER SERVICE GRAND JUNCTION CO  
645 AM MST MON OCT 28 2002

...SNOW TODAY AND AGAIN THURSDAY...

THIS HAZARDOUS WEATHER OUTLOOK IS FOR WESTERN COLORADO AND FOR  
EASTERN UTAH.

.DAY ONE...TODAY AND TONIGHT

MOUNTAIN SNOW SHOWERS WILL DEVELOP ACROSS THE AREA LATE THIS  
AFTERNOON...BECOMING MORE NUMEROUS DURING THE EVENING. SNOWFALL  
AMOUNTS FROM 3 TO 6 INCHES ARE LIKELY ACROSS THE ELK HEAD AND PARK  
MOUNTAINS...AND THE FLAT TOPS BY TUESDAY MORNING. THE SNOW LEVEL  
WILL LOWER TO THE VALLEY FLOORS ACROSS THE NORTH TONIGHT.

A STORM SYSTEM OVER SOUTHERN CALIFORNIA WILL APPROACH THE FOUR  
CORNERS AREA LATE TODAY.

.DAYS TWO THROUGH SEVEN...TUESDAY THROUGH SUNDAY

SNOW SHOWERS WILL FALL ACROSS THE MOUNTAINS THURSDAY AND  
THURSDAY NIGHT. SOME ACCUMULATIONS ARE POSSIBLE THROUGH FRIDAY  
MORNING.

.SPOTTER INFORMATION STATEMENT...

SPOTTERS SHOULD RELAY SNOWFALL INFORMATION TO THE NATIONAL  
WEATHER SERVICE.

\$\$

EXAMPLE 3:

FLOODING

FLUS43 KPAH 180949

HWOPAH

ILZ075>078-080>094-INZ081-082-085>088-KYZ001>022-MOZ076-086-087-100-  
107>112-114-191000-

HAZARDOUS WEATHER OUTLOOK

NATIONAL WEATHER SERVICE PADUCAH KY

149 PM CDT FRI OCT 18 2002

...SIGNIFICANT RAINFALL TONIGHT THROUGH SATURDAY NIGHT...

THIS HAZARDOUS WEATHER OUTLOOK IS FOR SOUTHEAST  
MISSOURI...SOUTHERN ILLINOIS...SOUTHWEST INDIANA AND WESTERN  
KENTUCKY.

.DAY ONE...THIS AFTERNOON AND TONIGHT

SIGNIFICANT RAINFALL SHOULD BEGIN TONIGHT BETWEEN SUNSET AND  
MIDNIGHT OVER SOUTHEAST MISSOURI AND SOUTHERN ILLINOIS AND SPREAD  
INTO WESTERN KENTUCKY AND SOUTHWEST INDIANA BETWEEN MIDNIGHT  
AND 3 AM CDT.

.DAYS TWO THROUGH SEVEN...SATURDAY THROUGH THURSDAY

SCATTERED THUNDERSTORMS WILL CONTINUE SATURDAY INTO SATURDAY  
NIGHT. MOST AREAS SHOULD RECEIVE BETWEEN ONE AND THREE INCHES OF  
RAIN. WITH SOILS NEARLY SATURATED...FLOODING OF SOME AREA ROADWAYS  
AND LOW LYING AREAS IS POSSIBLE. A FLOOD WATCH HAS BEEN ISSUED FOR  
SOUTHEAST MISSOURI...SOUTHERN ILLINOIS...SOUTHWEST INDIANA AND  
WESTERN KENTUCKY FOR SATURDAY AND SATURDAY NIGHT.

THE COMBINATION OF A SLOW MOVING FRONTAL BOUNDARY...AN UPPER LEVEL  
DISTURBANCE...AND DEEP MOISTURE SHOULD PRODUCE THIS SIGNIFICANT  
RAINFALL EVENT STARTING TONIGHT AND CONTINUING THROUGH SATURDAY  
EVENING.

.SPOTTER INFORMATION STATEMENT...

RAINFALL REPORTS FROM SPOTTERS SATURDAY AND SATURDAY NIGHT WOULD BE HELPFUL.

&&

MORE INFORMATION MAY BE OBTAINED AT THE FOLLOWING URL:

[HTTP://WWW.CRH.NOAA.GOV/PAH](http://www.crh.noaa.gov/pah) (All LOWER CASE)

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#### EXAMPLE 4

#### FIRE WEATHER

FLUS45 KBOU 031716  
HWBOU  
COZ030>051-041700-

HAZARDOUS WEATHER OUTLOOK  
NATIONAL WEATHER SERVICE DENVER COLORADO  
1015 AM MST TUE SEP 3 2002

...RED FLAG WARNING THIS AFTERNOON AND EVENING...

THIS HAZARDOUS WEATHER OUTLOOK IS FOR NORTHEAST AND NORTH CENTRAL COLORADO.

.DAY ONE...THIS AFTERNOON AND TONIGHT

RELATIVE HUMIDITY WILL DROP TO 10 TO 15 PERCENT THIS AFTERNOON. WITH TEMPERATURES RISING INTO THE MID 80S TO LOWER 90S AND SOUTHWEST WINDS INCREASING TO 20 TO 35 MPH...RED FLAG CONDITIONS WILL BE MET THIS AFTERNOON AND EARLY THIS EVENING. A RED FLAG WARNING HAS BEEN ISSUED.

A STRONG CHANGE IN PRESSURE BETWEEN HIGH PRESSURE CENTERED OVER TEXAS AND A COLD FRONT APPROACHING FROM THE PACIFIC NORTHWEST WILL GENERATE THE STRONG WINDS AND BRING HOT AND DRY AIR OVER COLORADO FROM THE DESERT SOUTHWEST. THIS FRONT SHOULD PASS THROUGH NORTH CENTRAL AND NORTHEAST COLORADO LATE TONIGHT BRINGING COOLER TEMPERATURES THUS REDUCING THE DANGER OF WILD FIRES.

.DAYS TWO THROUGH SEVEN...WEDNESDAY THROUGH MONDAY

ON FRIDAY STRONG SOUTHWEST WINDS AND UNSEASONABLY WARM TEMPERATURES WILL RETURN. RED FLAG CONDITIONS MAY BE MET BOTH FRIDAY AND SATURDAY BEFORE A COLD FRONT LOWERS THE DANGER OF WILD FIRES ON SUNDAY.

.SPOTTER INFORMATION STATEMENT...

SPOTTERS WILL NOT BE NEEDED TODAY OR TONIGHT.

&&

MORE INFORMATION MAY BE OBTAINED AT THE FOLLOWING URL:

[HTTP://WWW.CRH.NOAA.GOV/BOU](http://www.crh.noaa.gov/BOU) (ALL LOWER CASE)

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#### EXAMPLE 5

#### MARINE

FLUS43 KDLH 311306

HWODLH

MNZ010>012-018>021-025-026-033>038-WIZ001>004-006>009-011300-

HAZARDOUS WEATHER OUTLOOK

NATIONAL WEATHER SERVICE DULUTH MN

715 AM CST THU OCT 31 2002

THIS HAZARDOUS WEATHER OUTLOOK IS FOR NORTHEASTERN MINNESOTA AND NORTHWESTERN WISCONSIN.

.DAY ONE...TODAY AND TONIGHT

WINDS ARE EXPECTED TO INCREASE THROUGH THE DAY...AND CONDITIONS MAY BECOME HAZARDOUS ALONG THE SOUTH SHORE OF LAKE SUPERIOR FOR SMALL CRAFT. SEE THE NEAR SHORE MARINE FORECAST FOR FURTHER DETAILS.

.DAYS TWO THROUGH SEVEN...FRIDAY THROUGH WEDNESDAY

WINDS WILL BE STRONG ENOUGH TO GENERATE WAVES THAT MAY BECOME HAZARDOUS TO SMALL CRAFT ON LAKE SUPERIOR FRIDAY AND FRIDAY NIGHT. SEE THE NEAR SHORE MARINE FORECAST AND OPEN WATER FORECAST FOR FURTHER DETAILS.

TUESDAY AND WEDNESDAY A MIXTURE OF FREEZING RAIN AND SNOW IS EXPECTED.

.SPOTTER INFORMATION STATEMENT...

WEATHER SPOTTERS WILL NOT BE NEEDED.

&&

MORE INFORMATION MAY BE OBTAINED AT THE FOLLOWING URL:

[HTTP://WWW.CRH.NOAA.GOV/DLH](http://www.crh.noaa.gov/dlh) (ALL LOWER CASE)

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#### EXAMPLE 6

#### MULTIPLE HAZARDS

FLUS43 KBIS 281047  
HWOBIS  
NDZ001>005-009>013-017>023-025-031>037-040>048-050-051-291215-

HAZARDOUS WEATHER OUTLOOK  
NATIONAL WEATHER SERVICE BISMARCK ND  
425 AM CDT MON OCT 28 2002

...A HEAVY SNOW WARNING IS IN EFFECT FOR MUCH OF CENTRAL AND NORTHWEST NORTH DAKOTA LATE THIS AFTERNOON AND TONIGHT...  
...A DENSE FOG ADVISORY IS IN EFFECT FOR NORTH CENTRAL NORTH DAKOTA THIS MORNING...

THIS HAZARDOUS WEATHER OUTLOOK IS FOR WESTERN AND CENTRAL NORTH DAKOTA.

.DAY ONE...TODAY AND TONIGHT

SCATTERED LIGHT RAIN AND SNOW THIS MORNING WILL BECOME MORE WIDESPREAD IN THE AFTERNOON...THEN CHANGE TO ALL SNOW TONIGHT. SNOWFALL COULD RANGE FROM 6 TO 10 INCHES OVER NORTH CENTRAL NORTH DAKOTA BY TUESDAY MORNING...WITH 4 TO 8 INCHES IN NORTHWEST AND SOUTH CENTRAL NORTH DAKOTA. THE SOUTHWEST SHOULD SEE 2 INCHES OR LESS.

A LOW PRESSURE SYSTEM IN CENTRAL MONTANA THIS MORNING WILL MOVE EAST ACROSS NORTH DAKOTA TODAY AND TONIGHT.

PATCHY FOG CAN BE EXPECTED ACROSS WESTERN AND CENTRAL NORTH DAKOTA THIS MORNING...THE FOG WILL REDUCE VISIBILITIES TO 1/4 MILE OR LESS AT TIMES IN NORTH CENTRAL NORTH DAKOTA.

.DAYS TWO THROUGH SEVEN...TUESDAY THROUGH SUNDAY

AREAS OF LIGHT FREEZING DRIZZLE AND FOG IS POSSIBLE DURING THE MORNING HOURS ON BOTH THURSDAY AND FRIDAY. THE COMBINATION OF PATCHY SLICK SPOTS ON ROADS AND LOCAL AREAS OF POOR VISIBILITY WILL BE A HAZARD TO MORNING COMMUTERS.

.SPOTTER INFORMATION STATEMENT...

THE NATIONAL WEATHER SERVICE IN BISMARCK REQUESTS SNOWFALL REPORTS FROM SPOTTERS TONIGHT OR TUESDAY MORNING.

&&

FOR MORE INFORMATION LOOK AT THE FOLLOWING URL...

[HTTP://WWW.CRH.NOAA.GOV/BIS](http://www.crh.noaa.gov/bis) (ALL LOWER CASE)

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#### EXAMPLE 7

DOUBLE AMPERSAND [&&] TO SEPARATE DIFFERENT KINDS OF INFORMATION

FLUS43 KEAX 261146

HWOEAX

KSZ025-057-060-102>105-MOZ001>008-011>017-020>025-028>033-037>040-043>046-053-054-271200-

HAZARDOUS WEATHER OUTLOOK  
NATIONAL WEATHER SERVICE KANSAS CITY/PLEASANT HILL MO  
545 AM CST TUE NOV 26 2002

...ACCUMULATING SNOW...WITH UP TO TWO INCHES POSSIBLE TODAY OR  
TONIGHT...

THIS HAZARDOUS WEATHER OUTLOOK IS FOR NORTHWEST...NORTH CENTRAL  
AND WEST CENTRAL MISSOURI...AS WELL AS EXTREME EASTERN KANSAS.

.DAY ONE...TODAY AND TONIGHT...

SNOW...WITH ONE TO TWO INCHES POSSIBLE...WILL ACCUMULATE IN AREAS  
NORTHWEST OF A LINE FROM OREGON TO GRANT CITY. LOCATIONS FARTHER  
SOUTH AND WEST WILL SEE LESS THAN AN INCH ...AND LOCATIONS SOUTH OF  
INTERSTATE 70 SHOULD JUST SEE SOME FLURRIES. WINDS WILL NOT BE  
STRONG...SO VISIBILITIES SHOULD REMAIN ABOVE A MILE. SNOW WILL END  
FROM WEST TO EAST THROUGH THE AFTERNOON.

.DAYS TWO THROUGH SEVEN...WEDNESDAY THROUGH MONDAY...

NO HAZARDOUS WEATHER IS EXPECTED AT THIS TIME.

.SPOTTER INFORMATION STATEMENT...

SPOTTER ACTIVATION WILL NOT BE NEEDED.

&&

DISCUSSION...A LOW PRESSURE SYSTEM WILL SWEEP ACROSS THE MIDWEST  
TODAY. SNOW CURRENTLY FALLING IN SOUTHEAST NEBRASKA WILL MOVE  
INTO THE OUTLOOK AREA THIS MORNING...AND AFFECT MAINLY NORTHERN  
MISSOURI. THE NORTHWEST PART OF MISSOURI HAS THE POTENTIAL TO SEE  
THE MOST SNOW...TAPERING OFF TO THE SOUTH AND EAST. HEAVY  
ACCUMULATING SNOW IS NOT EXPECTED MAINLY DUE TO MINIMAL MOISTURE.

THIS PRODUCT...ALONG WITH OTHER WEATHER...HYDROLOGICAL AND CLIMATE  
INFORMATION...IS AVAILABLE ON THE WEB AT:

[HTTP://WWW.CRH.NOAA.GOV/EAX](http://WWW.CRH.NOAA.GOV/EAX) (ALL LOWER CASE)

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